



## WRAPping About Your Watershed

Greetings! This article is the first of 8 articles in the “Healthy Waters” series to help those who live, work, and play in the Leech Lake watershed understand the importance of healthy waters to their lives. We thank this newspaper for publishing these important messages of how important healthy waters are to our health, recreation, the economic sustainability of our communities, and our quality of life.

The Clean Water, Land, and Legacy Amendment approved by Minnesota voters in 2008 underscored the value Minnesotans place on clean water and the lifestyle quality it supports. Funding from this amendment related to protecting and improving the state’s waters is directed to the Minnesota Pollution Control Agency (MPCA), the agency charged with cataloging the status, or health, of Minnesota’s 81 watersheds. Throughout this series you will learn what a watershed is and how it functions, the difference between a healthy and impaired watershed, and what watershed status means to water quality, the fish and wildlife it supports, and the quality of your daily lifestyle in Minnesota. This series will also describe civic processes for watershed management in a changing world and how you can participate as a property owner, an outdoor enthusiast, and a citizen.

### What is a watershed and how does it work?

A watershed is the flow, or shed, of water from a defined landscape downhill to the same lake, stream, or river. The smallest watersheds are drainage areas for small streams and lakes. Collectively, each small watershed is a piece, or subwatershed, of a larger watershed that feeds into a river, larger lake, or larger bodies of surface water in the vicinity.



Surface water refers to bodies of water we see on top of the landscape, such as lakes, streams, and wetlands. The movement of water from the landscape to surface water, or runoff, is familiar to all of us. Surface water is also connected to groundwater (see above figure), the water below the surface. The groundwater level is commonly referred to as the water table.

There are two ways water moves from the landscape to groundwater: directly by percolation through (soaking into) the ground and through connection to surface water. Similar to adding water to a flower pot, increases or decreases

in precipitation will increase or decrease the levels of ground and surface water. Percolation of water through the ground is the most important mode of transport and provides the greatest transfer of water from the landscape to the groundwater. Chemical compounds, such as fertilizers, oils from driveways, and other chemicals used in our environment are usually filtered from the water as it travels through the ground, but direct runoff to surface water does not get filtered.

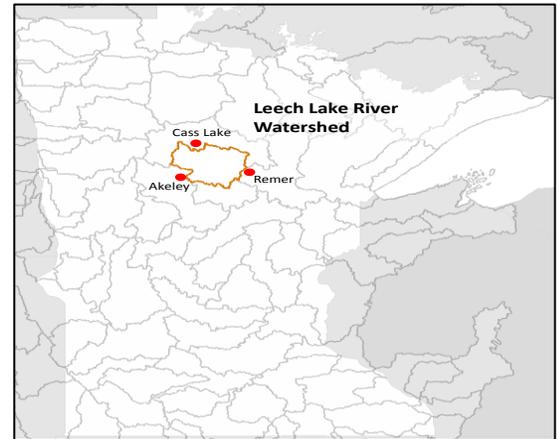
There are 81 major watersheds in the state. The Leech Lake River watershed encompasses 1,335 square miles (855,000 acres) and includes portions of Beltrami (0.3%), Cass (80%), and Hubbard (20%) counties. The watershed has a total of 277 river miles and contains over 750 lakes (166,374 surface acres). Twenty (20) percent of this watershed is water. All the land in the watershed eventually drains to Leech Lake and then out through the Leech Lake River to the Mississippi River, which eventually drains to the Gulf of Mexico.

### **Why is watershed management important?**

Water, and in particular water quality, is one of Minnesota's most abundant and precious resources. Good water quality supports abundant fish populations and quality habitat for wildlife, clean surface water for recreating, and safe drinking water for residents. As the human population increases, landscape development increases the amount of runoff and material carried with it, such as road salt, fertilizers, pesticides, and sediment, directly into surface waters. As runoff increases, water quality can decline over time. As a result, the species composition of fish, wildlife, and plant communities change to types more tolerant of poorer conditions, lakes and streams become less desirable for swimming and other forms of recreation, and water becomes less drinkable. Once impaired, restoring water quality is expensive and often unattainable. Keeping "clean water clean" is easier and less costly in the long term.

### **What happens on the land determines the quality of our waters.**

Understanding how our activities on the landscape impact water quality and more importantly how we can minimize the effects of our actions, is fundamental to ensuring high quality waters that provide a quality lifestyle and economic sustainability for our region for future generations to come



### **What is a WRAP?**

In 2012, the MPCA initiated a 4-year Watershed Restoration And Protection Project (WRAP) to determine the quality of the waters in the Leech Lake watershed and develop a long-range plan for keeping its waters healthy. Each of the other 80 watersheds in Minnesota is undergoing a similar project over the next 10 years to extensively monitor the chemical and biological health of the watershed's lakes and streams. The success of the Leech Lake WRAP will depend on the collaboration of other state agencies, local governments, the business community, lake associations, and citizens that live and play in the watershed.

### **Here are some key points from this article:**

- Abundant supply of high-quality water is one of Minnesota's most precious and sensitive resources.
- Landscape development that increases runoff and the material carried with it into surface waters will reduce water quality over time.
- Reductions in water quality will lead to changes in fish, wildlife, and plant communities. It will also change the way we, as citizens, use water in our daily activities.
- Once impaired, water quality restoration efforts are expensive and often unattainable.

The remainder of this series will review what maintaining the watershed's health means to forests and surface waters in the Leech Lake watershed, fish and wildlife, groundwater, quality of life, living in a changing world, watershed restoration and protection efforts and how citizens can get involved. *This article was written by Doug Schultz, DNR Walker Area Fisheries, on behalf of the Civic Engagement Team of the Leech Lake Watershed Restoration and Protection Project. The next article in Healthy Waters series: Linkages Between Healthy Forests and Healthy Waters.*